

ABSTRACT OF THE DISCLOSURE

An optical transmission apparatus and method for changing a rise time ( $t_r$ ) and fall time ( $t_f$ ) of a signal light to be transmitted, to reduce wavelength dispersion characteristics and nonlinear effect of a transmission path. A transmitter includes a  $t_r, t_f$  adjusting circuit capable of adjusting  $t_r$  and  $t_f$  of a modulation signal so that the modulation signal is optimized in accordance with reception characteristics. A modulator then modulates a light with this adjusted modulation signal, and the modulated light is then transmitted to a receiver via a transmission path. Therefore, by transmitting the modulated light having changed  $t_r$  and  $t_f$ , the influence of wavelength dispersion characteristics and nonlinear effect of the transmission path can be offset, so that the waveform deterioration of signal light after transmission can be reduced.